WHAT IS CLAIMED IS:

1. A method of detecting cancer cells in a biological sample from a mammal, the method comprising the steps of:

(i) providing the biological sample from the mammal; and

(ii) detecting an overexpression of a Pellino 1 polypeptide comprising at least 70% amino acid identity to SEQ ID NO:2 or a Pellino 2 polypeptide comprising at least 70% amino acid identity to SEQ ID NO:4 in the biological sample, thereby detecting the presence of cancer cells in the biological sample.

2. The method of claim 1, wherein the Pellino 1 polypeptide has an amino acid sequence of SEQ ID NO:2 or the Pellino 2 polypeptide has an amino acid sequence of SEQ ID NO:4.

3. The method of claim 1, wherein the Pellino 1 or Pellino 2 polypeptide is detected using an antibody that selectively binds to the polypeptide.

4. The method of claim 1, wherein the detecting step comprises detecting an mRNA that encodes the Pellino 1 or Pellino 2 polypeptide.

5. The method of claim 1, wherein the cancer cells are from an epithelial cancer.

6. The method of claim 5, wherein the epithelial cancer is a lung, colon, or ovarian cancer.

7. The method of claim 1, wherein the mammal is a human.

8. A method of detecting cancer cells in a biological sample from a mammal, the method comprising the steps of:

(i) providing the biological sample from the mammal; and

(ii) detecting an increase in copy number of a gene encoding a Pellino 1 polypeptide comprising at least 70% amino acid identity to SEQ ID NO:2 or a Pellino 2 polypeptide comprising at least 70% amino acid identity to SEQ ID NO:4 in the biological sample, thereby detecting the presence of cancer cells in the biological sample.

9. The method of claim 8, wherein the detecting step further comprises:

(a) contacting the gene with a probe that selectively hybridizes to the gene under conditions in which the probe selectively hybridizes to the gene to form a stable hybridization complex; and

(b) detecting the hybridization complex.

10. The method of claim 8, wherein the Pellino 1 polypeptide has an amino acid sequence of SEQ ID NO:2 or the Pellino 2 polypeptide has an amino acid sequence of SEQ ID NO:4.

11. The method of claim 8, wherein the cancer cells are from an epithelial cancer.

12. The method of claim 11, wherein the epithelial cancer is a lung, colon, or ovarian cancer.

13. The method of claim 8, wherein the mammal is a human.

14. A method of monitoring the efficacy of a therapeutic treatment of cancer, the method comprising the steps of:

(i) providing a biological sample from a mammal undergoing the therapeutic treatment; and

(ii) detecting a level of a Pellino 1 polypeptide comprising at least 70% amino acid identity to SEQ ID NO:2 or a Pellino 2 polypeptide comprising at least 70% amino acid identity to SEQ ID NO:4, or detecting copy number of a gene encoding the Pellino 1 or Pellino 2 polypeptide in the biological sample compared to a level or copy number in a biological sample from the mammal prior to, or earlier in, the therapeutic treatment; thereby monitoring the efficacy of the therapy.

15. The method of claim 14, wherein the Pellino 1 polypeptide has an amino acid sequence of SEQ ID NO:2 or the Pellino 2 polypeptide has an amino acid sequence of SEQ ID NO:4.

16. The method of claim 14, wherein the cancer is an epithelial cancer.

17. The method of claim 15, wherein the epithelial cancer is a lung, colon, or ovarian cancer.

18. The method of claim 14, wherein the mammal is a human.

19. A method of identifying a compound that inhibits the activity of a Pellino 2 polypeptide, the method comprising the steps of:

(i) contacting the compound with a Pellino 2 polypeptide that comprises at least 90% identity to an amino acid sequence of SEQ ID NO:4; and

(ii) detecting a decrease in the activity of the Pellino 2.

20. The method of claim 19, wherein the Pellino 1 polypeptide has an amino acid sequence of SEQ ID NO:2 or the Pellino 2 polypeptide has an amino acid sequence of SEQ ID NO:4.

21. The method of claim 19, wherein the Pellino 2 polypeptide is amplified in the cell compared to normal.

22. A method of inhibiting proliferation of a cancer cell that overexpresses a Pellino 1 polypeptide comprising at least 70% amino acid identity to SEQ ID NO:2 or a Pellino 2 polypeptide comprising at least 70% amino acid identity to SEQ ID NO:4, the method comprising the step of contacting the cancer cell with a therapeutically effective amount of an inhibitor of the Pellino 1 or 2 polypeptide.

23. The method of claim 22, wherein the cancer cell is from an epithelial cancer.

24. The method of claim 23, wherein the epithelial cancer is a lung, colon, or ovarian cancer cell.

25. The method of claim 22,wherein the Pellino 1 polypeptide has an amino acid sequence of SEQ ID NO:2 or the Pellino 2 polypeptide has an amino acid sequence of SEQ ID NO:4.

26. The method of claim 22, wherein the inhibitor is identified using the method of claim 19.

27. The method of claim 22, wherein the inhibitor is an antibody.

28. The method of claim 22, wherein the inhibitor is an antisense polynucleotide.

29. A isolated nucleic acid encoding a Pellino 2 polypeptide, wherein the Pellino 2 polypeptide comprises at least 95% amino acid sequence identity to SEQ ID NO:4.

30. The nucleic acid of claim 29, wherein the nucleic acid encodes a Pellino 2 polypeptide comprising an amino acid sequence of SEQ ID NO:4.

31. The nucleic acid of claim 29, wherein the nucleic acid comprises a nucleotide sequence of SEQ ID NO:3.

32. An expression vector comprising the nucleic acid of claim 29.

33. A host cell comprising the expression vector of claim 32.

34. An isolated Pellino 2 polypeptide comprising at least 95% amino acid identity to SEQ ID NO:4.

35. The polypeptide of claim 34, wherein the polypeptide comprises an amino acid sequence of SEQ ID NO:4.

36. The polypeptide of claim 34, wherein the polypeptide specifically binds to antibodies generated against a polypeptide comprising an amino acid sequence of SEQ ID NO:4.

37. An antibody that specifically binds to the polypeptide of claim 34.